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ABSTRACT

Approximately 258 mothers and their children (aged 3 months to 3 years) participated in a home visit program using paraprofessionals as home visitors on a once-a-week basis in the first two years of life, combined with a small-group setting for four hours a week for children 2 to 3 years old. Findings indicate that such a Home Learning Center approach to early stimulation can lead to (1) improved cognitive performance of the children as a function of time in the program and (2) positive attitudes and behaviors of mothers toward their children. The relationships between maternal attitude and behavior to child performance found at ages two and three provide support for the development of parent-oriented service programs. (Author/MK)

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A HOME LEARNING CENTER APPROACH TO EARLY STIMULATION

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A HOME LEARNING CENTER APPROACH TO EARLY STIMULATION PROJECT

Institute for Development of Human Resources

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ERRATA

p. 19 - Self-Concept Measurement, line 5 (Zeller) - change to Ziller

p. 37 - line 11, ("the last work,") - change to "the last word,"

P. 41 - line 6, (efforcts) - change to efforts

Reference page - change Zeller to Ziller

INTRODUCTION AND SPECIFIC AIMS

The purpose of this project was to continue the investigation of a home-oriented approach into intervention in the lives of very young children in a way which might help break the poverty cycle (Gordon, 1967, 1969). The project demonstrates an approach which might become functional as a part of the operations of Parent-Child Centers. It also offers a possible model for Family Day Care. The goal of the project was to attempt to simultaneously raise the chances that a young child will reach a higher level of intellectual and personal development and that the significant adults in his life will gain in competence and feelings of self-worth. This project was a combination of research and demonstration, containing phases of basic research, material development, and field testing of both materials and a dissemination process.

The critical importance of the earliest years of life in the development of intellectual skills as well as personality is generally accepted in current psychological and educational thought. However, we still lack sufficient knowledge of (1) acceptable instructional materials and tasks for providing such stimulation and (2) practical procedures to reach both urban and rural families whose children need such stimulation techniques. In this project, both were interwoven within one operation.

Given the importance of early stimulation, how should it be provided? What should be done, when should it be done, in what setting should it be done, and for how long should it be provided?

The early project (Gordon, 1969) provided beginning answers on the child from three months to two years. We needed to answer these same questions for the two-to-three year old before the child moves into more organized and institutionalized early child centers. The earlier project provided us with the basic orientation and on-going population for longitudinal study; this project provided some answers to the questions stated above.

The techniques of using low income women as the major educational group for both mothers and children developed at the Institute for Development of Human Resources was employed. We had previously demonstrated that low income women could be selected, instructed, and placed in other homes to teach mothers ways to stimulate the perceptual-motor (Piaget's first level of intellectual functioning), and verbal activities of their infants (Gordon, 1967, 1969).

The stimulation procedure developed in the previous project formed the basic orientation. The cognitive developmental orientation, which might be called neo-Piagetian, that is, the conversion of Piagetian principles and measurement tasks into instructional activities, was continued. The basic process of using non-professional disadvantaged women as parent educators in a home centered operation was the heart of the project. The major change, created by the developmental status of the children (two-to-three years of age rather than three months to two years of age) was in the development of a small-group setting for additional instruction beyond the home visit approach. This new setting, a "backyard center," was still home oriented. These centers were in the homes of mothers whose children were in the program.

Specific Aims

The overall aim was to investigate the effectiveness and practicability of a home centered technique for cognitive, language, and personality development of mother and child, based upon the use of parent and child educators who are themselves members of the population to be served. It represents an innovation in family services which, if effective, extends the reach of the professional, upgrades the competence and importance of the non-professional, and in the long run reduces the needs for such services as participants become more capable of meeting their own needs. The specific aims were to answer the following questions and test the following hypotheses (as of September, 1968):

Questions

A. Can a combined home visit and home learning center approach, using non-professionals as the key educators of parent and child, be sustained for children ages two-to-three and their mothers?

B. Can intellectual and personality stimulation materials be developed which can be easily taught to the mother and child by non-professionals?

C. Does early child stimulation, provided through a program such as this, have continuing effects as youngsters [illegible]ch kindergarten and the beginning of school years?

Hypotheses

(1) At age three, the child's intellectual performance will be a function of length and timing of training. (a) The order

of performance will be from those groups with the most to those with the least training. (b) Where groups have equivalent time in training, the order will be from earliest to latest.

(2) At age three, the child's self-concept will be a function of length and timing of training.

(3) During the time in the Home Learning Centers, children will show a trend toward those behaviors usually associated with positive self-concepts.

(4) The mother's view of herself will be a function of length and timing of participation in the parent education program. Where groups have equivalent time in training, the order will be from the earliest to the latest.

(5) The number and range of mothers' social interactions will be a function of length and timing of parent education.

(6) There will be a trend toward increased community activity in the mothers in proportion to participation in parent education.

(7) The above differences will continue to hold for the child and his mother up until the child's age of six.

PROCEDURE

Sample

The sample of mothers and children consisted of 158 families who were in either experimental or control status in the previous project plus an additional 100 families for whom participation in the project was new. The original sample was identified at birth of the child by the Obstetrics staff of the Teaching Hospital of the J. Hillis Miller Health Center of the University of Florida.

The criteria for selection, in addition to the economic code of "indigent" on the hospital admission form and residence in Alachua and 11 other surrounding counties were: single birth, no breach or Caesarian delivery, no complications to the mother or infant, no evidence of mental retardation and no evidence of mother's mental illness.

The 100 new families were added into the longitudinal population beginning in November, 1968, in order to investigate the effects of training on children and mothers who have not previously been aware of or exposed to the project. For the child to be involved in the Home Learning Center, his mother agreed to be visited once a week and receive instruction by a parent educator. The program was fully explained to the mother and written consent, in keeping with the Public Health Service rules on research involving human subjects, was obtained.

Treatment Groups

1. Experimental, from baby at three months to three years of age.
2. Experimental, baby from three months to two years; control, third year.
3. Control, baby's first year; experimental, second and third years.
4. Experimental, baby from three months to one year; control, second year; experimental again in baby's third year.
5. Experimental, three months to one year; control, second and third years.
6. Experimental, baby's second year of life; control, first and third years.
7. Experimental, second and third years only.
8. Control.

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This allowed for testing the effects of amount and sequence of this experience on changes in performance of mother and babies. The treatment variables were length and timing of instruction, and persence of instruction. Dependent variables were: changes in mother and child.

The major treatment variable was instruction by a parent educator-Child Development Trainer of mother and child. In order to provide this treatment, there were three steps: (a) development of materials, (b) training of the parent and Child Development Trainers, and (c) implementation in parent education and Home Learning Centers.

COMBINED HOME LEARNING CENTER-HOME VISITS

The first question (A) that we asked was: Can a combined home visit and home learning center approach, using non-professionals as the key educators of parent and child, be sustained for children ages two to three and their mothers?

The Home Center or "Backyard Center" was the home of a mother in the project, selected so as to insure safety for the children and adequate space for a small group. At our maximum we had 11 centers in operation in Gainesville, High Springs, Williston, Newberry and Hawthorne, Florida.

Each child spent four hours a week in two separate sessions at the Backyard Center. He was transported to the center by the Home Learning Center Director. Centers were located in neighborhoods as close to the population distribution of the children as possible so that there was a minimum of transportation. A center was not a permanent location but phased in and out of existence depending upon

the number of children in that neighborhood in the project between the ages of two and three. A center was simply a home specially equipped, where at least five children were brought twice a week for small-group instruction and activities.

For the grant period, excluding three weeks around Christman time and three weeks in June in which a number of the parent educators were on vacations and centers were closed and home visits curtailed, average weekly attendance of students was 70%. If we remember that, as our infant data showed, many of these children are particularly vulnerable to childhood diseases and varieties of chronic upper respiratory illnesses, we feel that this attendance rate represents success. Many of our mothers had to learn some sense of planning, timing, and order for this to occur. Since children attended the Home Learning Center only four hours a week and had to be picked up, for example, at 9:30 in the morning and brought home at 12:00 on Tuesdays and Thursdays, this meant the mother not only had to have sufficient commitment to the project, but also organization to be sure that the child could be ready. If she were a working mother, provisions had to be made for the rest of the day or for having the child picked up at a babysitter or relative since she would have left for work before the time for him to go to the center.

The Home Learning Center Director was a parent educator in the infant project. This means that she came from the disadvantaged population. She was trained by participation in the infant stimulation project so that she understood the importance of early child

experience and had some of the mechanics of stimulation well in hand. It was our intention as a part of the general upgrading of the parent educator that she be given even more responsibility in this new role. She was in charge of the center. The mother in whose home these activities occured was employed as a helper of the Home Learning Center Director. Since one of our major goals was increasing the competence and feelings of self-worth of members of the population, we feel this definition of the task contributed to achieving this aim, although for several practical reasons we did not study changes in the parent educators.

Since the Home Learning Center Directors employed in this project were people who had been previously employed as parent educators on the Children's Bureau Project and had between eighteen months and two years experience when we began, we thought that our supervisory situation did not require a high supervisor-director ratio nor did it require close supervision. We assigned graduate assistants to backyard centers to collect data. The Home Learning Center Director initially attempted to rely on or look to the graduate assistants, even though very often the latter were beginning master students and completely naive, and the former had far more experience in working with young children. We also felt that since the overwhelming number of Home Learning Center Directors were black and, in the nature of things at the University of Florida at the time, all of our graduate students were white, we did not want to perpetuate a supervisory relationship which might have overtones, not only of the differences

in professional background, but also of race. Our experience now had indicated that running 11 centers, some of which were thirty miles away from campus, required more supervision and support than we had envisioned. Where we thought we were encouraging development and independence (which did occur for a number of our Home Learning Center Directors who had done an outstanding job) there were some cases in which the Director felt too much on her own, neglected and ignored. The change in September, 1969, to the above described curriculum development system gave us a natural entree into a new supervisory relationship, although the meanings and the roles were not always clear. Although the principal investigator had conceived that the member of the Tuesday afternoon group who made home visits and Backyard Center visits would be focusing on the way in which the curriculum operated, it was obvious that, at least in the Home Learning Center Director's eyes, this was an encouraging form of supervision. The feeling of support and of connection improved the morale which had, for some of the Directors, fallen off. It also served to make each center a little less autonomous in the way the Director interpreted the home learning task to be done and the way she managed the small-group settings with children.

Even with this, however, each center took on its own characteristics which were dictated by the personality, attitudes and skills of its director. Although the curriculum materials for home visits and center use were common, the way in which each center utilized the varieties of toys and other materials was somewhat individual.

A workload for the Home Learning Center Director consisted of four days (eight sessions) with children, home visits to the families of her center children, and one day of inservice education, working with the materials and learning how to teach small groups of children. The inservice education time serves a dual purpose of preparing her for the work with the children and as a testing ground for the materials.

Parent Education

While the child was in the center program, the parent educator (Home Learning Center Director) worked with the mother on a regular once-a-week schedule. This role was well defined in the previous project and represents a continuation of activity. The parent educator, through explanation and demonstration, taught the mother activities and exercises to be used at home. The work of the mother and the work in the Backyard Center was integrated so that home and center activities complemented and supplemented each other. For example, if a backyard center activity dealt with experiences which lead toward conservation of volume, then the mother might be taught how to play a water game with the child in which the size of the containers is changed but the amount of water remains constant.

The mother was instructed not only in the mechanics of the task, but also in general attitudes towards use of the, and some conceptual framework and rationale for their use. The essential mode of presentation was demonstration by the parent educator and modeling by the mother. For those mothers who were able to manage simple

reading materials, the parent educator taught ways of reading to children. The parent education program also required introduction of materials into the home which would normally not be present. In the previous work with infants, we used materials already in the home. Work with two-to-three year olds required the introduction of certain materials (clay, blocks, books) into the home on either a permanent or temporary loan basis.

In the original infant project, data on home visits indicated that we reached each home on the average of two weeks out of three, or an average weekly percentage of 67. The home visit percentage in this project was 74%. Although this was not significantly higher, it indicated the interest and involvement of parents in the combined activity. This suggests that parents are interested not only in some form of group care, minimal in this case (four hours a week) but also in learning at home about activities in which they can engage with their children.

The caseload responsibilities of Home Learning Center Directors were much heavier than their responsibilities in the original infant project, yet they were quite able to handle both the group and home visit assignments with the high rate of success indicated above.

Further, attrition statistics indicate that less than 10% of the families withdrew from the project after their children had attended. Most of these were very early, and reflected family conditions which made it difficult to get a child to the center on schedule. The answer to Question A, therefore, was <u>yes</u>, this type of program can be sustained.

Question B was: Can materials be developed which can be easily taught to the mother and child by non-professionals? The answer is yes. These materials, tentatively entitled Home Centered Learning Activities for Two's and Three's, will be published in winter 1971-72 by St. Martin's Press, New York.

DEVELOPMENT OF INSTRUCTIONAL MATERIALS

Our initial plan was to develop tasks and materials at a materials development center. The major resources for these tasks were to come, as in the previous project, from Piaget (1952), Hunt (1961), and Bernstein (1960). In addition, Montessori (1964), and Escalona (1967), materials were to be used to suggest stated goals. They were to be sequenced and organized in terms of age. They were then to be presented to the parent educator/Home Learning Center Director. This would uncover problems in interpretation and teaching which would lead to further modification of the materials before they were introduced into the home and the Backyard Center. As they were evaluated in the field, new ideas would present themselves. These would be fed back to the materials center. The key role was that of the parent and child educator. Our previous work indicates the great value of this person in materials development, dissemination, and evaluation.

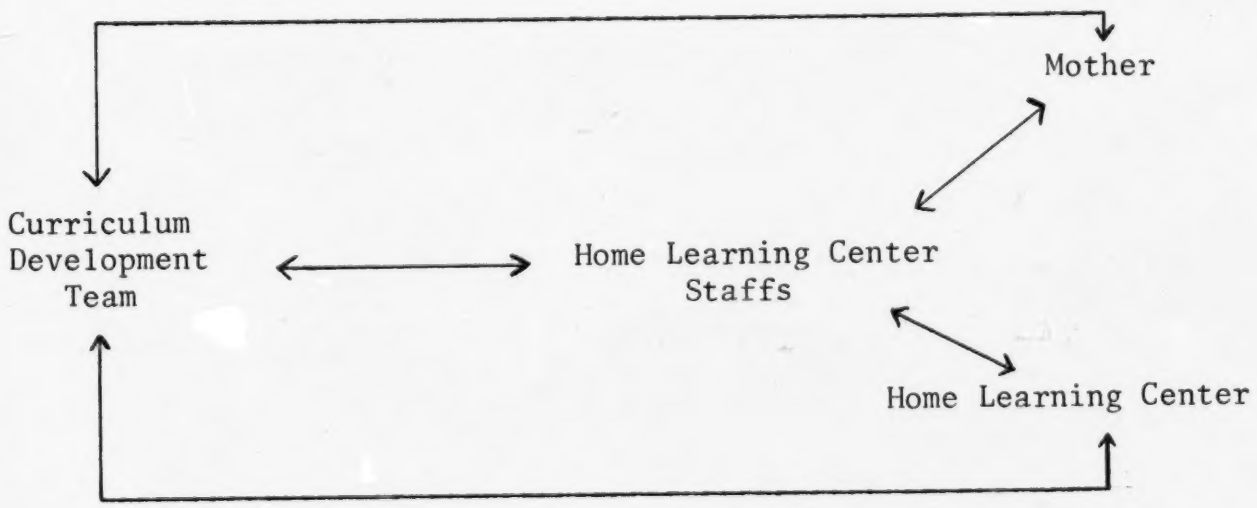
As we worked, we made a major change in operation. The above procedure proved far too cumbersome and inefficient. We found that curriculum people from early childhood education and graduate assistants with little training were not able to envision the types

of homes in which materials would be needed, nor were they really skilled at knowing enough about the behavior and capabilities of two year old children. Further, many of our original tasks for this age group did not interest the mothers, especially those who had been with us for the first two years. They felt that they were repetitious and were not challenging to them. Therefore, new tasks were developed with one criterion of interest for both the mother and the child, not just the child alone.

We went through several procedures and emerged with the following, beginning in September, 1969. Figure 1 depicts the flow chart. The curriculum development team consisted of Dr. Barry Guinagh as coordinator, Dr. Ira Gordon, Dr. R. Emile Jester; and

Figure 1

Flow Chart of Instructional Materials



Mr. David Welch, Mr. Gary Weld, and Mrs. Diane Kronstadt, all doctoral students in Educational Psychology, and Mrs. Diane Dunlop, an artist and a graduate student in Curriculum and Instruction.

The procedure to accomplish the flow proved to be very satisfactory and very productive. The group named above met as a brainstorming group on Tuesday afternoon. Any member initiated a curriculum idea, usually based on some concrete material (egg cartons, block wedges) or some type of picture material which he felt would be related to cognitive, language, and personal development. The aim in this session was to produce a rough version of a home learning task which could be taught individually to the child in the Home Learning Center and then to the mother for her to work with the child at home. This rough task was duplicated and presented to the Home Learning Center Directors (paraprofessionals who had been parent educators/home visitors in previous project) and the Child Development Trainers (who were the mothers living in our Home Learning Center homes and working with the Home Learning Center [Backyard Center] Directors) on Wednesday morning for their contributions, discussions, and modifications and elaboration. This led to the elaboration of five or six possible ways of working. In these discussions, the focus was always kept on how the performance of such a task might have some pay-off in the (1) interpersonal relationship between mother and child, (2) cognitive development, (3) feelings of competence of the child, and (4) mother's sense of accomplishment. All members of the project: faculty, graduate students, backyard center personnel, thus were involved in materials development.

Practice on Wednesday morning consisted or role-playing the presentation of the task to the mother and child. The second draft of these tasks was then duplicated and given in sufficient quantity to the Home Learning Center Directors, so they could use them that week on their home visits with the mothers after trying them out in the centers with their children. Each member of the Tuesday afternoon group was assigned to several directors and visited both a few homes and the center each week in the role of curriculum evaluator, not in the role of supervisor. At the following Tuesday afternoon and Wednesday morning sessions, the previous task was discussed and decisions made about changes in form and working based upon the try-outs. If it seemed to have worked out well, it became a standard piece of curriculum for the project.

From September, 1969, until March, 1970, we ran a small laboratory group of four or five children and a Home Learning Center Director where the development team could try out ideas before bringing them to the Tuesday afternoon session. Beginning in March, 1970, we moved to a new approach. The enrollment in the project decreased as children reached their third birthday. This created an opportunity to involve Home Learning Center Directors and Child Development Trainers in a new way as their time became available. Nine were assigned for part of their time (when their centers and caseloads permitted) to work at the Baby Gator Nursery which served children between the ages of two and one-half and five on a ten-hour-day day care basis. There were 30 children at the nursery, all of whom are children of students at

the University of Florida. We shifted some of our Wednesday morning programs to the nursery and were able to try out tasks directly on these children and get an immediate assessment of their appropriateness and difficulty. The regular procedure of the home visit and Backyard Center use of the materials continued as before.

Beginning in February, 1970, we began the re-analysis of tasks based upon extensive field use. All earlier tasks were reviewed and re-written on the basis of the Home Learning Center Director's assessment of their utility in the home visits with the mothers and their appropriateness for use in the small-group setting in the Backyard (Home Learning) Center.

The curriculum we developed is not an end in itself. Research literature generally suggests that specific tasks or skill training with the child alone does not necessarily remain or maintain itself when a program is completed. Our goal was to so influence the mother and to so develop a relationship between parent and child that home training would continue past the end date of the project. We hoped that, through the curriculum, parents would feel a responsibility for their child's education and develop a belief that they have some control over their child's ability to learn. It became evident to us in working with our paraprofessionals that they developed a high morale and a certain level of sophistication that will easily maintain itself past the final date of their involvement in this particular project.

RESEARCH OPERATIONS

Cognitive Development

All children were administered the Bayley Scale at age two. We planned to evaluate children at exit (age tnree) on the Peabody Picture Vocabulary Test, the Leiter International Scale, the Stanford-Binet, and project materials (see Table 1). Since project materials were still in the process of being developed when many of the children had exited, we were not in the position to use the materials as an evaluation in the same fashion we were able to do in the infant and toddler phase of our work. This is unfortunate because the principal investigator believes that this form of evaluation proved one of the most useful in the infant study. It is further unfortunate because it meant we relied heavily on the Stanford-Binet. Although it is a very fine and highly regarded instrument, it may not relate to some of the kinds of gains which the children made in their ability to deal specifically with elements of their environment. Further, in view of the present discussions in the field about cultural diversity in education, the Stanford-Binet may not indicate the various kinds of growth we see.

As Gray and Miller point out, "devising measures even remotely comparable from infancy to later childhood is an extremely difficult task." (Gray and Miller, 1967, p. 470). Stott and Ball (1965) factor analyzed a number of pre-school tests including the Stanford-Binet. At the thirty-six month level, their factors were: concept naming, memory for symbolic systems, visual cognitive, and memory

TABLE 1

Date Collection Plan (By Baby's Age)

Group	Pre 2	During	Post 3	4	5 & 6
BYC/HV	Bayley HISM PPVT Interview (mother)		S-B HISM PPVT Interview (mother) S-C Leiter Series Material	S-B PPVT Interview (mother) S-C	S-B PPVT Interview (mother) S-C
		Observation/S-C PEWR			P-SI

Control: Same as above with the exception of no observation/S-C and PEWR.

1. S-B: Stanford-Binet
   PEWR: Parent Educator Weekly Home Visit Reports
   P-SI: Pre-School Inventory, ETS, developed by Caldwell
   S-C: Self-Concept measure
   HISM: How I See Myself, maternal form
   PPVT: Peabody Picture Vocabulary Test

for semantic systems (Stott and Ball, 1965, pp. 118-120). Based upon their evaluation of several tests, they reported that a single IQ score gives an inadequate representation of the child's performance. Our previous work with the Griffiths Scale indicates that subscores rather than general IQ scores are the most meaningful. Maurelli (1971) factor analyzed the Griffiths Scale and found support for a factor approach rather than a total score. We, therefore, factor analyzed the Stanford-Binet scores and developed the factors as measures.

Self-Concept Measurement

In the area of self-concept, no adequate measures exist for children of this age. It was thus impossible to establish a two year old base line and use a pretest-posttest design.

Our original plan was to measure children at age three using the CSSCT developed by Long, Henderson and Zeller (1967). When we tried this with three year olds we found that the instrument just did not work. It was too complex and made demands upon three year olds they could not fulfill. Therefore, we were left with no standard measure at age three for self-esteem. We collected two types of observational information other than those originally projected, which enabled us to have some measure which can be inferred to represent elements of self-esteem. First, the Stanford-Binet examiners completed the behavior scale developed for the Bayley Test of Mental Development. Schaefer (1969) found that scores on this behavior measure related not only to test performance but also

to maternal variables. Such factors as task-orientation, (see Appendix A), for example, may be seen as an affective measure and part of the child's motivational system and thus indicative of self-concept. Although the reasoning may be somewhat tortuous at this point, we are analyzing the observed behavior of the child in the test situation to see how it relates to various other measures.

Second, with the advice and consent of Dr. Stott, we used his motivation scale. The Stott Scale of Effectiveness Motivation assesses effective-motivation of pre-school children with a natural setting approach. The scale consists of descriptions of individual and social play, and social interaction, in a free play setting. Eleven general categories (e.g. Building, Creative Play, Participation in Games, etc.) are presented under which a number of discrete items which describe ways in which the child responds to or approaches the broad general setting category (see Appendix B).

The recorder checks those items which best apply to the child's approach to a particular category. The scale yields an "E-score," or score on effective motivation, which may range from 0-44.

The procedure for utilizing the scale in the Backyard Center consisted of assigning graduate assistants to observe particular children in the center setting. (All the observed children were in the experimental group.) The children were observed just prior to the administration of the three year testing battery (Binet, Leiter, PPVT). After two weeks of observation, the graduate assistant filled out the scale for the observed child.

The observed pattern of child behavior will lead us to inferences about self-concept. To some degree the technique of influence from behavior is an even more reasonable approach to the measurement of self-concept of young children than is any form of single test administration, even one which is essentially, like the CSSCT non-verbal in child response but verbal in adult direction.

Our third hypothesis was that during the time in the Home Learning Centers a child would show a trend towards those behaviors usually associated with positive self-concept. As stated above, since we lost our standard measure of positive self-concept, we had to shift to see whether behaviors gathered over time in the Home Learning Center relate to the Schaefer factors during test administration and to the motivational scores on the Stott instrument.

Since no instrument was available which could provide the data necessary to answer this question, the early months of the project were spent in the development of the Situational Categories Observation Schedule (see Appendix C). Mr. Gary Weld was in charge of this activity. Graduate students working in the Home Learning Centers assisted in this development by providing information on both the relevance of the content---was the instrument effectively recording the actual behaviors of the children?---and the practicability of the format---what recording procedures best accomplished the dual goals of accuracy and efficiency? Weekly meetings were held during which additions and deletions in content, and changes in recording procedures were made following the graduate student's reports of their field experiences. The resulting instrument is

organized into several "situations" which were found to occur naturally in the Home Learning Centers. Within each situation, specific behavioral alternatives are described, again with attention to the reports of actual behaviors occuring in the centers. Observations were made over five consecutive two-minute periods, providing a total of ten minutes of data for each child under observation. Space is provided for recording examples of the characteristic speech of the child and for describing any behaviors not adequately recorded elsewhere.

Major revision was completed and regular data collection using the instrument was begun in April, 1969. Probably because of the specificity of the descriptions of situations and behaviors, inter-observer reliability posed no problem. Percentage of inter-observer agreement among six observers over five consecutive two-minute periods, excluding category "J" (Additional Behaviors) ranged from 0.61 to 0.85, with a mean value of 0.76. Frequent turnover among observers precluded systematic reliability monitoring; however, as a result of our experience with the initial group it was the consensus of the research team that this was not a serious problem.

Every child who attended a center was scheduled to be observed at least 24 times, eight consecutive times beginning with the child's fifth time at the center (to allow time for typical behaviors likely to be associated with separation, the new regimen, people, and physical surroundings, to diminish); eight consecutive times covering the midpoint of his time at the center and the eight times immediately prior to exiting. The schedule provides 80 minutes of

behavioral information on each child during early, mid, and final days of participation in a Home Learning Center.

Two hypotheses were related to the number and range of mother's social interaction and trends towards increased community activity. We developed an exit interview (see Appendix D) to attempt to deal with these hypotheses.

RESULTS TO DATE

Cognitive Development at Age 3

The first set of studies dealt with effects on the cognitive development of the child. The hypothesis was that at age three: (a) the order of performance will be from those groups with the most to those with the least training; (b) where groups have equivalent time in training, the order will be from earliest to latest.

Several measurements were obtained: The Bayley Test of Mental Development at age 2, the Stanford-Binet, Peabody Picture Vocabulary Test, and the Leiter at 3.

As stated above, we factor analyzed the Stanford-Binet test using a varimax rotation on 191 cases to see if factors emerged making finer comparisons between the groups and extracted 3 factors (see Table 2).

Subjects were scored on these factors. Table 3 presents the data. On the basis of the performance on two factors which were cognitive (language and memory) the hypothesis that performance is positively related to length of time in the program was supported.

TABLE 2

Stanford-Binet Factors
Used in Group Comparisons

Factor I Language

S-B Level	Description
II-6	Identifying Objects by Use
II-6	Picture Vocabulary
III-6	Comparison of Balls
III-6	Discrimination of Animal Pictures
III-6	Response to Pictures
IV	Pictorial Identification
IV	Discrimination of Forms

Factor II Memory

S-B Level	Description
II-6	Obeying Simple Commands
III	Picture Memories
III-6	Sorting Buttons
IV	Naming Objects From Memory
IV	Pictorial Identification

Factor III Perceptual Motor

S-B Level	Description
III	Stringing Beads
III	Blocking: Bridge
III	Copying a Circle.
III-6	Comparison of Balls
III-6	Patience: Pictures
III-6	Sorting Buttons.

TABLE 3

Means and Standard Deviations for Three Stanford-Binet Factors at Age 3 by Number of Years of Participation in the Stimulation Program

Years in Program	N	Factor					
		Language		Memory		Perceptual-Motor	
		X	SD	X	SD	X	SD
3	27	3.30*	1.98	2.26*	1.48	3.00	1.82
2	36	2.81	1.82	2.08	1.48	3.11	1.49
1	76	2.59	1.68	1.68	1.31	3.05	1.52
Control	51	2.33	1.81	1.61	1.23	2.98	1.64

*Higher than years 0 and 1, $p < .05$

The data (Table 4) lead to rejection of the hypothesis that earlier experience is superior to later within the first three years. Further, there were no significant sex differences within each group.

The Peabody Picture Vocabulary Test and the Leiter were covaried against the 2 year Bayley Test of Mental Development to produce adjusted mean scores. The data (Tables 5 and 6) offer further support for the effect of length of time in the program, but also for the rejection of the relative advantage of early over later experience, Group 4, with an N of 8 scored consistently above other groups for reasons which may be due to sample size (attrition) or (urban) or to unknown variables.

TABLE 4

Means and Standard Deviations for Three Standard-Binet Factors at Age 3 by Number of Years and Timing of Participation in the Stimulation Program

			Factor					
			Language		Memory		Perceptual-Motor	
Group	Years	N	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.
1	all 3	27	3.30[a]	1.98	2.26[b]	1.48	3.00[c]	1.82
2	first 2	17	2.64	1.97	2.12	1.69	2.82	1.63
3	last 2	8	3.00	1.85	2.50	1.31	4.12[b]	1.25
4	1 and 3	11	2.91	1.70	1.73	1.27	2.82	1.17
5	1 only	10	2.10	1.60	1.40	1.17	2.30	1.49
6	2 only	10	2.00	1.41	1.60	1.08	1.90	1.45
7	3 only	56	2.78	1.75	1.75	1.38	3.39[e]	1.41
8	Controls	51	2.33	1.81	1.61	1.23	2.98[f]	1.64

a. Higher than groups 5, 6, and 8 $p < .05$
b. Higher than groups 5 and 8 $p < .05$
c. Higher than group 6 $p < .05$
d. Higher than groups 1, 2, 4, 5, 6, and 8 $p < .05$
e. Higher than group 5 and 6 $p < .05$
f. Higher than group 6 $p < .05$

TABLE 5

Adjusted Means for the Leiter and the Peabody Picture Vocabulary Test at Age 3 by Number of Years in Program[1]

	Leiter			PPVT		
No. Yrs.	N	Adjusted Mean	SE	N	Adjusted Mean	SE
3	27	3.25	.50	27	83.63	2.96
2	37	3.98	.43	36	84.82	2.56
1	70	2.63	.31	70	79.97	1.84
Control	51	2.59	.36	53	76.00	2.11
	F = 2.75, $p < .05$					

[1]Covaried on Bayley Mental Development Scale at age 2

TABLE 6

Adjusted Means for the Peabody Picture Vocabulary Test and the Leiter at Age 3 by Number of Years and Timing of Participation in Program[2]

Group	Years	N	Adjusted Mean	SE	N	Adjusted Mean	SE
1	all 3	27	3.26	.49	27	83.65	2.94
2	first 2	18	2.97	.60	17	83.58	3.70
3	1 and 3	11	3.92	.77	11	83.33	4.63
4	last 2	8	6.31	.90	8	89.38	5.41
5	1 only	11	2.17	.77	11	72.93	4.61
6	2 only	10	1.86	.80	10	74.70	4.83
7	3 only	49	2.89	.36	49	82.65	2.19
8	controls	51	2.59	.36	53	75.98	2.10
	F = 2.85, $p < .05$				F = 2.08, $p < .05$		

[2]Covaried on Bayley Mental Development Scale at age 2

The results were consistent across all measures: the longer the children were in the program, the better their performance with the major differences occuring between 2 or 3 years and 1 or 0 years. Time of entry into the program did not significantly effect performance of those who had equivalent time.

Children's Self-Concept

The second set of hypotheses were related to children's self-concept.

Our hypothesis was that the observed behavior of children in the Home Learning Center, as rated on the Stott Scale, would be positively related to both test behavior and test performance at ages 2 and 3.

At the completion of testing (at ages 2 and 3) the examiner rated the child's behavior on the profile designed by Bayley, and this was scored using Schaefer's Task Oriented Behavior factor.

Tables 7 and 8 show that for the total group (62 experimentals on whom data were complete) there was a low positive correlation between Stott score (age 3) and Stanford-Binet. However, sex differences are clearly evident. For boys, effectiveness motivation is positively related to Task Oriented Behavior at ages 2 and 3; for girls it is related to mental test performance at ages 2 and 3. For boys, Task Oriented Behavior at 2 is predictive of test performance and behavior at 3; for girls it is not.

Maternal Data

The third set of hypotheses related to the effect of the program on the mothers. A study by Herman (1970) demonstrated that

TABLE 7

Means and Standard Deviations on Stott Effectiveness Motivation Score, Test Performance and Behavior

	Total (N=62)		Male (N=27)		Female (N=35)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Stott Effectiveness Motivation Scale (Age 3)	21.53	10.30	20.89	9.81	22.03	10.63
Stanford-Binet (Age 3)	95.27	12.01	92.88	11.20	97.06	12.28
Binet Task Oriented (Age 3)	26.43	7.46	24.00	8.15	28.32	6.25
Bayley Mental Development Scale (Age 2)	85.01	16.21	84.62	20.43	85.37	11.34
Bayley Motor Development Scale (Age 2)	101.75	17.62	97.27	18.49	105.63	15.83
Bayley Task Oriented (Age 2)	25.48	5.47	25.32	6.10	26.62	4.86

TABLE 8

Relationship Between Stott Effectiveness Motivation Score, Test Performance and Behavior

	Bayley Task Oriented Age 2	Binet Task Oriented Age 3	Bayley Mental Dev. Scale Age 2	Bayley Motor Dev. Scale Age 2	Stanford-Binet Age 3
Stott Effectiveness Motivation Scale Age 3					
Boys (N=27)	.35[A]	.33	.03	.09	.14
Girls (N=35)	.17	.10	.45	.10	.41*
Total (N=62)	.26*	.21	.19	.10	.30*
Bayley Task Oriented					
Boys (N=27)	.37*	.51*	.61*	.45*	
Girls (N=35)	.04	.54*	.58*	.16	
Total (N=62)	.21	.51*	.58*	.27*	
Binet Task Oriented					
Boys (N=27)		-.07	.37*	.37*	
Girls (N=35)		.29	.21	.71**	
Total (N=62)		.08	.26*	.57**	

[A] $p < .10 > .05$

* $p < .05$

** $p < .01$

observed and self-reported maternal attitudes and verbal behavior were related to child test performance and behavior on the Bayley. The patterns differed by sex of the child. Maternal variables appeared to be more important predictors for males than for females.

A project still under way by Resnick indicates a high correlation between the mother's language toward the child in the five minute pretest session at age 2 and child performance on the Stanford-Binet at age 3. These two studies emphasize the importance of maternal and verbal behavior on child performance and support Schaefer's findings on a similar population.

To examine the effect of Home Learning Center participation, mothers were interviewed by a psychiatric nurse and an anthropology graduate student, both trained interviewers, to elicit open-ended responses to the project. Although there were no differences in academic or career expectations, experimental mothers reported that they were significantly more involved (play more, buy "educational" toys) in the learning of their children (53% to 31%) than controls; and 78% of them saw their children in a positive light (smarter or learn faster than other children, making social progress). No control mother stated that her child was superior. Several control mothers expressed the wish that their children could have been in the program. Approximately 40% of the control mothers indicated that they had learned some activity ideas from watching testing.

Although not originally projected, we have long been concerned with the idea that participation in a project such as this over a

family which would be reflective of feelings of increased control over one's environment. In order to gather some information on this we developed a questionnaire (see Appendix E) which our Home Learning Center Directors completed on the patterns of residence change in our families and the patterns of additional births.

Questions one through five related to amount and type of movement within the geographical area of the project (Alachua and surrounding counties). Table 9 and 10 present the data.

The question we asked was, if we assume that the control group represents a reliable natural picture of the population, does the experimental group differ in their pattern from the control, or expected, distribution? We, therefore, treated the control as the expected and the experimental as the observed and performed a one-sample x^2 test.[1] With this procedure, both amount and type of movement of the experimental population differs from that of the control.

Tables 11 and 12 present the data on family size and birth rate. The controls tend to have slightly larger families to begin with; although, because of the wide variation in family size, the difference is not significant.

The data indicates that mothers in the project have a lower birth rate than the controls. Generally, these demographic data lead us to infer that the project had a clear effect on family behavior in the direction we see as positive: reaching out for better living conditions and family planning.

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[1]This procedure was suggested by R. Emile Jester.

If, as we suspect, maternal attitude and behavior continue to be important contributors to child development beyond the first three years, then effects on children should increase.

TABLE 9

Degree of Change of Residence

Group	N	No or One Move		Two or More Moves	
		N	%	N	%
Any Experimental Treatment[1]	91	79	86.8	12	13.2
Three Year Control	44	31	70.5	13	29.5

$x^2 = 6.52$, $p < .05$

[1]Any experimental treatment which includes at least a year prior to Home Learning Center. This also applies to Table 5.

TABLE 10

Direction of Move

Group	N	Better		Lateral	
		N	%	N	%
Any Experimental Treatment	40	27	67.9	13	32.1
Three Year Controls	23	12	52.2	11	47.8

$x^2 = 4.9$, $p < .05$

TABLE 11

Means and Standard Deviations, Number of Children Upon Entry

Group	N	X	SD
Any Experimental Treatment	91	2.96	2.05
Three Year Controls	44	3.41	3.04

TABLE 12

Number of Births During Project

Group	N	Number of Births					
		None		One		Two or More	
		N	%	N	%	N	%
Any Experimental Treatment	91	62	68.1	21	23.0	8	8.8
Three Year Controls	44	25	56.8	16	36.3	3	6.9

$x^2 = 6.96$, $p < .05$

Discussion of Results to Date

Longitudinal assessment, interwoven with treatment, offers a sound procedure for the analysis of program effects over time. Our results indicate that a home visit program using paraprofessionals as home visitors on a once-a-week basis in the first 2 years of life, combined with a small-group setting for four hours a week for children 2-3 years old, lead to (1) improved cognitive performance of the children as a function of time in the program, and (2) positive attitudes and behaviors of mothers toward their children. Further, the relationships between maternal attitude and behavior to child performance found at ages 2 and 3 not only increase our scientific knowledge but also provides support for the development of parent-oriented service programs.

The assessment of social and emotional development (self-concept, task orientation, competence motivation) needs considerable attention by the field at large. We have found some relationships between affect and cognition, but much remains to be done in this area.

The factor analysis of the Stanford-Binet produced meaningful factors which should be useful in other investigations, especially service and intervention programs, because these factors give a clearer picture of performance than an overall score.

Our Immediate Goals Are:

A. Data collection on children at ages 4 and 5, on mothers.

B. Replication of above studies using the continued longitudinal information to test Question C, whether this program has continuing effects.

C. Investigations of (1) the relationship of marital status of the mother, maternal variable scores, sex of infant and test performance; (2) factor analysis of Griffith, Bayley and Binet to investigate common elements; (3) analysis of Stott Scale for possible explanations of differential correlations by sex; (4) analysis of Home Learning Center Parent Educator Weekly Report data in relation to child performance on the Stanford-Binet (repeat of Herman study on 3 year olds); (5) analysis of Weld's observation data; (6) relationship of observed child behavior in the Home Learning Center to maternal measures and child test performance at 3 and 4; (7) investigation of interaction of sex and treatment.

IMPLICATIONS

One of the purposes of this project was to demonstrate an approach to working with parents of very young children and with the children themselves in a combined family-type small-group situation and home visit program. It was suggested that such an approach might be useful for Parent and Child Centers and as a possible model for at least the educational component of family day care. A major implication, therefore, is that this type of program is viable. Not only can paraprofessionals operate such centers with a system of inservice training, but also parents will voluntarily send their children to attend such a program and will, themselves, participate in the home visit aspects. It must be remembered that in our project there were no comprehensive services

offered to parents nor were there any inducements for participation outside of the learning program for the children. It is clear that these parents and, therefore, parents who are similar to the, value early childhood experiences and will participate when opportunities are presented. The over 70% attendance and home visit participation rate speaks well for parent concern, interest, and support.

The second major outcome is the curriculum itself. One of the difficulties in mounting such a program was the lack of published materials for use with children of this age and for their parents. While the materials we have developed (Home Centered Learning Activities for Two's and Three's) do not represent "the last work," they will enable Parent and Child Centers, Homestart programs and day care centers to have a basic framework of curriculum from which to develop and extend on their own.

The third implication may be found in the process of curriculum development itself. Although we have just mentioned that our materials are usable in a variety of other centers, what may be even more critical is the translation of the process of the development to other locations. Any group has a variety of ideas. The combined efforts of professionals and paraprofessionals can be utilized to create locally appropriate materials which can be seen by the parents involved as worthwhile activities for them and their children. In our Head Start and Follow Through programs the complete emphasis is on the local development of materials. We would suggest, therefore, that other agencies engaged in service programs emulate our process rather than relying solely on our product.

A fourth implication is for the area of research. We are faced with the problem of assessing frowth in children in both the intellectual and affective domains with very inadequate tools. Evaluation must be conceived of as somewhat different than research in that the aim must be the measurement of specific outcomes with confidence. These outcomes were a result of the program itself. The use of global measures of intelligence has proven difficult for us because we had to shift from the Griffiths Scales for one year olds to the Bayley Scales for two (the new Bayley was not available in time for our program needs) to the Stanford-Binet at three. The comparability of these measures is not clear. We need to engage in more investigations (such as we have begun) into the factor structure of these measures to see whether or not there are clusters of items which relate more clearly to program goals and then to assess on these clusters rather than on total score. Further, such analyses will indicate what areas of abilities seem to relate through time.

Personality measurement in the first three years of life is a field which needs much further investigation. We used observation procedures to attempt to assess such growth. Our data is yet incomplete but the problems are clear. If we are developmentalists we have certain beliefs that what occurs early in life has significant meaning for later on. We are at this point, unable, outside of certain theoretical statements, to demonstrate empirically very many relationships between aspects of observed behavior in the first few years of life and later personality. Further, some of our theoretical terms have not

been defined operationally. Even though the theory may be sound it is untestable in the kinds of intervention studies and service programs which are and will be conducted. For example, what set of behaviors in a two year old might conceivably be inferred to relate to high self-esteem? Has a two year old established enough self-awareness to be evaluated on self-esteem? We hope our observation data may give us some base line cues about actual changes in affective behavior of the children in the program, but the whole field needs considerably more work to develop effective standardized terms as well as observational and other measurement procedures for assessing the affective domain.

The fifth implication is that it is clear from our work that longitudinal studies although difficult because of population mobility may in the long run, offer us far more clues than short-term intervention designs. In our program we have had the combination of intervention and longitudinal study. This may offer the best possible arrangement for the long range assessment of intervention.

The data on our families must lead to the rejection of any singleminded notion about the homogeneity of a population which has been grouped for one or two of its characteristics such as income or race. The attitudes and behaviors of the families in our project cover a wide spectrum and we were thus able to analyze the behaviors within the population which seem to influence child development, at least in the intellectual domain. Further

studies, both of our own data and of the data within other projects, should be pointed at the analysis of variables within the experimental group rather than operating on the assumption that the experimental treatment is the only single variable to be studied. We may learn far more from analyzing what were the characteristics, at least as we observed them, of the families of those children who made the most growth rather than from the comparison of experimental versus control growth. Several of our doctoral dissertations such as Herman, Resnick, and Etheridge have attacked and are attacking this issue.

The sixth implication is the need to recognize side effects. Any long range intervention program such as this might have effects on aspects of life other than those which were originally seen as goals or those which we originally planned to measure. The birth data and housing data, for example, are side effects or possible side effects of the program. Careful research in this field must always be open to serendipity. A respect for the families involved requires the researcher to be open to data about the effects of this program on unforeseen aspects of family life. This should be a part of the ethical code for family oriented intervention. It may very well be that some side effects might occur which are more harmful than whatever positive gains might accrue from the direct program. Decisions to continue or modify programs must be based, then, on more than a narrow focused view of initial goals.

Generally, our experience leads us to believe that the Home Learning Center model is a viable one for adaptation to service programs and a useful approach as a phase in the longitudinal research investigation of the effects of intervention. The research and evaluation issues raised must be seen as positive outcomes pointing to needed efforcts. In both the practical and research domains then, we feel that the outcomes have been most positive.

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APPENDICES

Appendix A

Schaefer's Task Oriented Items from the
Bayley Infant Behavior Profile[1]

4. Object Orientation[2]

7. Goal Directedness

8. Attention Span

9. Cooperativeness

36. Test Adequacy[2]

[1]Personal correspondence with Earl Schaefer

[2]All items on 9 point scale, except test adequacy, which is a 5 point scale

Appendix B

Third Expermental Edition

EFFECTIVENESS MOTIVATION

Scale

D.H. Stott Ph.D., Chairman Centre for Educational Disabilities
University of Guelph
John D. Sharp, University of Strathclyde, Glasgow

for the assessment of children aged 3 to 5 years
in Nursery School or Kindergarten

- - - - - - - - - - - - - - -

Child's name :

Date of birth :

Teacher's name :

School or Centre :

Date of this record :

This scale consists of descriptions of individual and social play, and social interaction, in a free-play setting.

Under each general heading (Building, Creative Play, etc.) are sub-headings referring to the general type play or other activity (e.g. No use of bricks, Poor use of bricks Steady building, Eager building). These are meant only as a guide to the recorder, and should not be checked.

The recorder checks the description which best fits the child. Two or more may be checked if the recorder is in doubt as to which to choose. This applies especially if the child has a good and not so good side to his behaviour.

If no description is apt, the recorder may write at the foot of the section what is actually observed (this will help us in improving the scale, and possibly in identifying very exceptional children).

In checking the descriptions try to visualize the child's behaviour over the last two weeks or so. But do not spend an excessive amount of time considering any one group of descriptions. The total score will not be much affected by the choice of one borderline item or another.

B U I L D I N G

No use of bricks	Too inhibited to build anything	.....
	Ignores the building pieces but has peculiar activities of his own	.....
Poor use of bricks	Does not build but arranges the bricks in always the same stereotyped order	.....
	Will simply throw the bricks around aimlessly	.....
	Wanders around and knocks over the constructions of other children	.....
Steady building	Likes building but has a repertoire of a few simple patterns only	.....
Eager building	Masters a construction and is very pleased with what he has accomplished	.....
	Often experiments and makes something novel	.....

APPEAL OF NOVELTY

Negative reaction to novelty	Is very afraid of anything new or unfamiliar	.....
	Doesn't approach anything new or unfamiliar unless encouraged	.....
	Approaches anything new with caution at first	.....
	Is oblivious to novel things because he is so wrapt up in his own strange activities	.....
Positive attitude to novelty	Goes for anything new and generally finds something interesting to do with it	.....
	Explores new objects enthusiastically; tries to find out how it works, asks questions about it	.....
	Rushes for anything new but it doesn't keep him interested for long	.....
	Shows a certain inner excitement for new things but doesn't communicate it or examine the object closely	.....

FORM BOARDS, PUZZLES
(fitting things, etc.)

No Participation	Shies away from anything like this	.....
	You cannot get him to give a moment's attention to anything like this	.....
	Will not cooperate and is a complete 'loner'	.....
Poor type of participation	Will try after some encouragement	.....
	Works away contentedly for a while, but does not persevere if task becomes demanding	.....
	Tries to fit the pieces without giving himself time to think, then gives up when he can't manage	.....
	Swipes the pieces off the table or kicks them about	.....
Good participation	Perseveres and is willing to go on to more difficult puzzles	.....
	Very eager to succeed and wants to try more difficult puzzles	.....

CREATIVE PLAY

Not creative	Just looks at the materials without seeming to dare to use them	.....
	Plays halfheartedly with them but soon gives up if he cannot get constant encouragement	.....
	Just likes making a mess or scribbling	.....
	Not in the least interested (just turns away or leaves the materials)	.....
	Has his own world of interests (difficult to get him to notice the materials)	.....
Some creativity	Always draws or models the same simple things	.....
	Makes representations of single objects	.....
	Creates a complete scene, situation or story	.....
Disruptive	Goes around scribbling on/or making remarks about other children's work	.....

PARTICIPATION IN GAMES

No participation	Can't be coaxed to take part	. . . .
	Hardly shows a sign of being aware that other children exist	. . . .
Poor type of participation	Always insists on leading but cannot lead constructively and is not accepted as leader	. . . .
	Pushes himself to the front of a line; squabbles with other children and pushes them around	. . . .
Some participation	Is apprehensive but can be coaxed	. . . .
	Takes part willingly but is never the leader	. . . .
Good participation	Joins in happily with other children and doesn't like being left out	. . . .
	Is usually in the forefront in any group activity	. . . .

TALK WITH OTHER CHILDREN

Little or no talking	Is very quiet and mousey: hardly says a word to others	. . . .
	Is too timid to make spontaneous remarks but will reply quietly when another child speaks to him	. . . .
	Never communicates to other children; is not shy but just ignores them	. . . .
	Has never been known to talk to anyone at all	. . . .
Poor type of communication	Will pass a few words but doesn't keep up an easy conversation	. . . .
	Boasts about what he can do and calls to other children to watch him (although it is not very clever)	. . . .
	Goes around and makes silly or teasing remarks to others	. . . .
Good communication	Makes spontaneous remarks to others	. . . .
	often tells others how to do things or reminds them of the proper thing to do	. . . .

REACTIONS TO STRANGERS

No reaction	Not shy but quite indifferent to stranger's presence	. . . . .
	Is completely insensitive to people whether they are strangers or not	. . . . .
Shy reaction	Is scared of strangers and will not go near them	. . . . .
	Rushes off to the security of a familiar adult but then takes an interest in the stranger	. . . . .
	Takes an interest in a stranger from a safe distance	. . . . .
Good reaction	Will approach a stranger willingly	. . . . .
	Questions a stranger in a mature way as to why he is there, etc.	. . . . .
Over reaction	Rushes up boisterously and shows no shyness at all	. . . . .
	Shows off and clowns in front of strangers, pulls at clothing or stands in the way	. . . . .

GENERAL MOBILITY

Little mobility	Can't be persuaded to venture far from his familiar place or corner	. . . . .
	Will venture forth when he has had time to summon up his courage, but soon returns to his favourite spot	. . . . .
	Will sit and watch his hands move or make strange gestures	. . . . .
Normal activity	Moves around cautiously	. . . . .
	Runs and skips around happily	. . . . .
	Explores his surroundings actively and intently	. . . . .
Over activity	Dashes impulsively towards whatever catches his interest	. . . . .
	Runs about waving objects or climbs about dangerously	. . . . .
	Circles round and round without taking notice of anyone	. . . . .

ACTIVITIES INVOLVING NOISE

Little noise	You can hardly get a squeak out of him	.....
	Never shouts or raises his voice	.....
	Is too cautious and deliberate to make much noise except occasionally when he is excited	.....
	Never cries out even when he hurts himself	.....
Constructive noise	Enjoys making some novel noise	.....
	Listens to noises he makes and experiments with them	.....
Disruptive noise	Often shouts out boisterously or in a temper	.....
	Is nearly always making some racket	.....

MAKE - BELIEVE PLAY

No make-believe	Too reticent ever to take part in make-believe	.....
	Can be coaxed to join in with other children	.....
	Is to restless and disorganized to bother about make-believe	.....
Some make-believe	Will join in willingly but is never the leader	.....
	Plays his own simple make-believe games	.....
	Tries to boss other children and dominate their play	.....
Good make-believe	Takes the lead in organizing make-believe games	.....
Hidden fantasy	You don't know what he's imagining because he doesn't bother to communicate	.....
	Lives in his own impenetrable world which he shares with no one	.....

HELPING OTHERS

A helped child

Seems content to be helpless so that he can remain dependent on an adult .....

Is always the one that other children help .....

Not a helper

Does not take the initiative to help others .....

Interferes impulsively and unhelpfully in other children's activities .....

Is too distant from either adults or children to help them

A helper

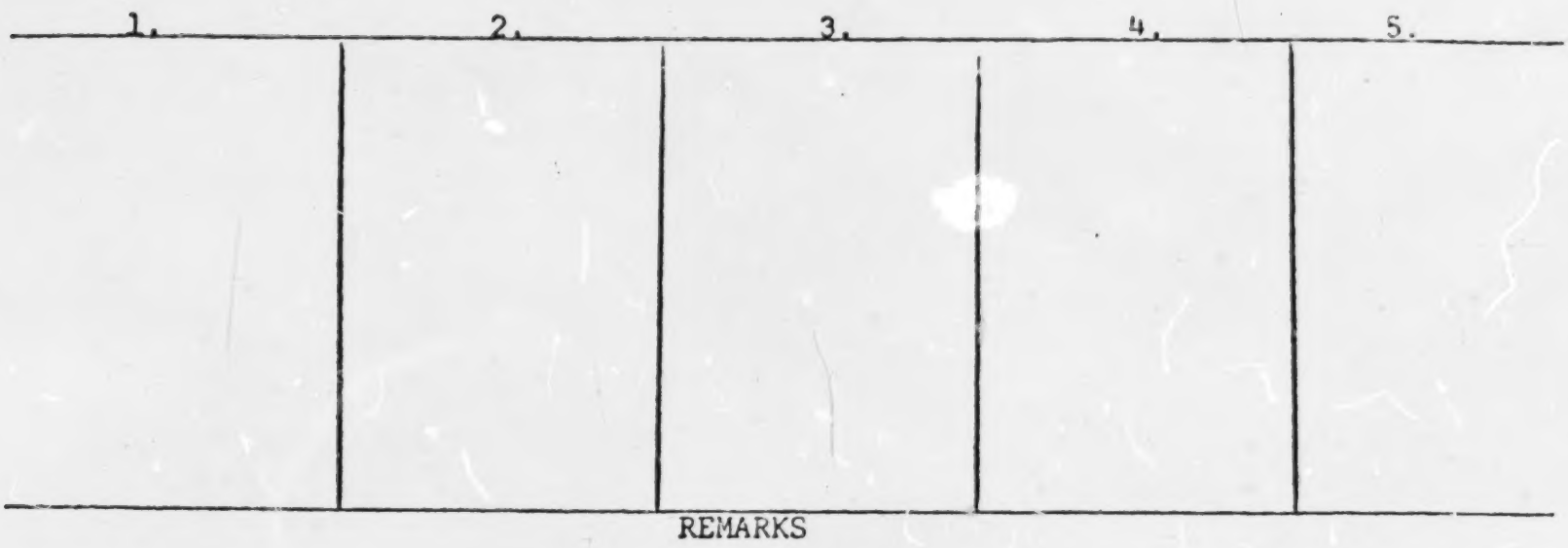
Will somethimes help another child but does not go out to do so .....

Often shows others how to do something and enjoys explaining something new .....

Keen to help adults but soon tires unless he can get a lot of attention .....

Pushes himself forward to help others without giving much thought to the problem .....

Appendix C



Situational Categories Observation Schedule (SITCAT)
Gary L. Weld, University of Florida

This schedule was developed as a research instrument in conjunction with the Home Learning Center Approach to Early Stimulation Project (NIMH Grant#R01 MH 16037-0) Ira J. gordon, Principal Investigator; Barry J. Guinagh, Project Director.

NAME_____ NO. AND GROUP_____ SEX_____

DATE OF OBSVN_____ DATE OF BIRTH_____ RACE_____

OBSERVER_____ CENTER DIRECTOR_____

DIRECTIONS

The Situational Categories Observation Schedule provides a framework for observing and recording the behavior of pre-school youngsters singly or in small groups. It is designed to incorporate both situational and sequential dimensions of behavior in one record. Efficiency and ease of use can be gained through a thorough familiarization with the situational categories.

In using the schedule each child is observed individually for 5 separate but consecutive 2-minute periods, making a total observation time of 10 minutes for each child. During each 2-minute period the behaviors observed are recorded in the appropriate columns (1-5 for each situation "A" - "I" (or under "J" if the behavior did not occur within a particular situation) using consecutive numbers to indicate the order in which the behaviors occurred. For example, if the child (C) is absorbed in solitary play when the first 2-minute observation begins a "1" would be placed in column 1, opposite G. 1; if within the same 2-minutes, the child next gets a different toy a "2" would be placed in column 1 opposite G5 if the new toy is then taken away by another C and the observed C begins to cry, a "3" would be placed in column 1 opposite E.8. If at the beginning of the second minutes an adult (A) is attempting to reinterest the child in something new and he listens but does nothing a "1" would be placed in column 2, opposite A.6. These recording procedures are continued throughout the remaining observation time so that within each 2 minute period (column) there is a series of consecutive numbers beginning with 1.

Space is provided on the back of the schedule for recording characteristic examples of the child's speech at the conclusion of each 2-minute period.

The remarks section is intended to be used for describing any behaviors the observer feels have not been adequately recorded elsewhere.

Obsvn Period 1 2 3 4 5

A. A makes suggestion or gives demonstration to individual C

1. Follows enthusiastically
2. Follows w/o protest
3. Follows w/overt protest
4. Follows w/vocal protest
5. Tries to follow w/o success
6. Watches/listens passively,no R
7. Refuses w/overt protest
8. Refuses w/vocal protest
9. Ignores A; continues activity
10. Situation did not occur

B. A makes suggestions or gives demonstration to group of C

1. Follows enthusiastically
2. Follows w/o protest
3. Follow w/overt protest
4. Follows w/vocal protest
5. Tries to follow w/o success
6. Watches/listens passively,No R
7. Refuses w/overt protest
8. Refuses w/vocal protest
9. Follows group action
10. Opposes group action
11. Ignores A; cont. own activity
12. Ignores grp.action;cont.own act.
13. Situation did not occur

C. A thwarts C's action/request

1. Accepts w/o protest
2. Accepts w/vocal protest
3. Accepts w/overt protest
4. Cries or screams
5. Disrupts activity of other C
6. Isolates self
7. Continues action after warning
8. Situation did not occur

D. Group play;interact w/C

1. Vocalizes to other C/A
2. Smiles/laughs
3. Cont.activity when other C leave(s)
4. Grp. breaks up when C leaves
5. Participates silently
6. Watches A(s)
7. Helps other C
8. Shares toys
9. Grp. breaks up when A leaves
10. Situation did not occur

E. C disrupts obsvd C's play

1. Continues play w/offending C
2. Physically struggles w/offending C
3. Goes to another C for help
4. Begins new game w/o protest
5. Begins new game w/overt protest
6. Begins new game w/vocal protest
7. Goes to another C & plays w/o protes
8. Cries/Screams
9. Goes to A for help
10. Isolates self
11. Ignores offending C.
12. Situation did not occur

H. Reaction to Success

1. Repeats game
2. Stops play
3. Goes to new game
4. Show to A
5. Show to C
6. Smiles to self
7. Vocalizes to self
8. Claps hands
9. Jumps/runs
10. Situation did not occur

Obsvn Period F. C Assaults Obsvd

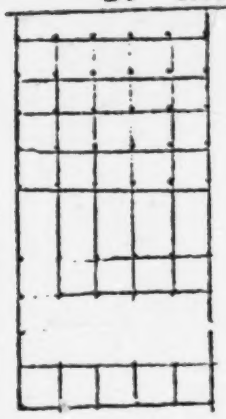
1 2 3 4 5

1. Protest verbally
2. Threatens offendin
3. Strikes offending
4. Goes to other C for help
5. Goes and plays w/other C
6. Cries
7. Goes to A
8. Isolates self
9. Continues activity
10. Situation did not occur

G. Solitary Play

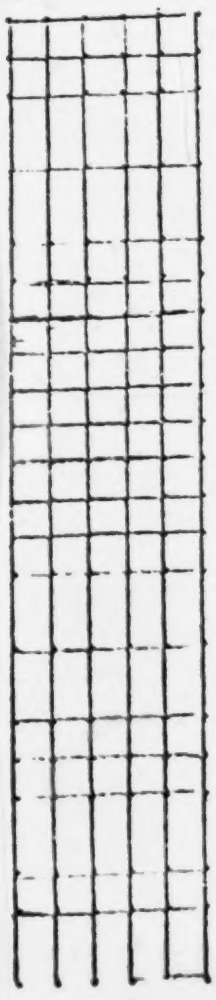
1. Absorbed in Play
2. Vocalizes to self
3. Verbalizes to self
4. Smiles or laughs to self
5. Changes toys or games
6. Inappropriately uses toys
7. Looks at A while playing
8. Looks at C while playing
9. Easily distracted
10. Situation did not occur

I. Reaction to Frustration



1. Stops play
2. Isolates self
3. Throws/kicks toys
4. Cries/Screams
5. Goes to new toy/ game
6. Goes to A for hel
7. Goes to C for hel
8. Persists w/unsuc- sessful R.
9. Situation did not occur

J. Additional Behaviors



1. Mouths fingers
2. Mouths objects
3. Fingers/Touches objects.
4. Passively observes A/C
5. Avoids other C
6. Avoids A
7. Seeks nearness to
8. Seeks nearness to
9. Interrupts C's pl.
10. Talks/plays w/A
11. Talks w/C
12. Seeks help from A
13. Seeks help from C
14. Shows/Gives toy/ work to A
15. Shows/Gives toy/ work to C.
16. Aks A for toy
17. Cries/Screams
18. Moves freely about room
19. Isolates self
20. Smiles/laughs/ Squeals
21. Shows affection

Appendix D

Four Year Interview

1. Have you moved since the beginning of the project?

   1. Yes_____ 2. No_____

2. About how many times have you moved?

   0. None
   1. One
   2. Two
   3. Three
   4. Four or more times

3. The latest move has been:

   1. to a better home
   2. to a poorer home
   3. to about the same kind of home
   4. to a public housing unit

4. The latest move has been from:

   1. renting to renting
   2. renting to owning
   3. owning to renting
   4. owning to owning
   5. moved in with relatives

5. How many people live in your home?

6. How many children did you have when you started with the project?

7. How many children have you had since you started with the project?

8. What is your current marital status?

   1. married_____
   2. single_____
   3. divorced_____
   4. remarried_____
   5. separated_____
   6. widowed_____
   7. deserted_____

9. How far would you like your child to go in school?

10. What would you like your child to be when he grows up?

11. Have you changed your own behavior (joined library, got magazines, purchased different toys) this past year?

12. Has your child been to school or participated in any type of project like this one this past year?

Appendix E

Four Year Interview

1. Have you moved since the beginning of the project?

   1. Yes_____ 2. No_____

2. About how many times have you moved?

   0. None
   1. One
   2. Two
   3. Three
   4. Four or more times

3. The latest move has been:

   1. to a better home
   2. to a poorer home
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   1. renting to renting
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   3. owning to renting
   4. owning to owning
   5. moved in with relatives

5. How many people live in your home?

6. How many children did you have when you started with the project?

7. How many children have you had since you started with the project?

8. What is your current marital status?

   1. married_____
   2. single_____
   3. divorced_____
   4. remarried_____
   5. separated_____
   6. widowed_____
   7. deserted_____